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A MILLION DOLLARS' WORTH OF KLONDIKE GOLD-DUST.

WHERE THE KLONDIKE GOLD IS VALUED.

By George Edward Adams.

DELICATE balances for weighing, safes for protecting the precious material, black-lead crucibles in which to melt the gold, gas furnaces, cupeling furnaces, distilling apparatus, proof-gold, quartation-silver, molds, fluxes, tanks, and all the equipment necessary to meet the legitimate requirements of a government assay office, were hurried to Seattle in May and June, 1898, and the institution was opened for the reception of gold on July 15th of the same year. The discovery of the vast placer wealth in the far northwest, which country is directly tributary to Puget Sound, made an assaying point in the state of Washington desirable if not indispensable.

As many of the miners from the Klondike had arrived in Seattle before July 15th, that morning saw a long line of them, with their precious burdens, in front of the assay office when it opened for business at nine o'clock. It was a sight not quickly to be forgotten. The looks of anxiety depicted upon the faces of those in waiting, the furrows caused by the rough touch of the north wind, and the general unkempt appearance of the miners, told the bystander that these were men who had escaped none of the hardships incident to life in the wilds of the Arctic Circle. They were the first to set in business motion the machinery of an institution which is now a well-recognized factor in the future development of the Pacific northwest. Deposits continued throughout the day, and at its close seventy-four hearts had been made happy by the government's receipt and 24,742 ounces of gold-dust were in the government's charge. And thus began what has since developed into one of the largest institutions of its kind in the world.

The general features of receiving and determining the value of gold-dust at an assay office are interesting. The weight

in ounces and hundredths is first ascertained by weighing the dust on scales sensitive to one-thousandth of an ounce. This weight is double-checked to avoid the possibility of error. The depositor's signature and address are taken, and then a negotiable receipt, specifying the weight of his treasure in ounces and hundredths, is issued to him. He is then instructed to call either the next day or the day thereafter, when settlement will be made. If he needs money immediately, any of the Seattle banks will, upon indorsement of the assay office receipt over to them and after verifying its genuineness, advance funds thereon. If, however, the depositor wishes to leave the city the same day, payment is arranged for at once.

When taken off the balances, the deposit is immediately placed in a self-locking steel receptacle, and soon thereafter delivered over to the melter, who reweighs it, and places it in a graphite crucible, which is set within a gas furnace where it is subjected to about 2200° of heat for a period of time corresponding somewhat with the size of the contents. This melting process separates the impurities from the gold-dust, leaving practically but gold and silver in solution. After the proper time has elapsed, the melt is poured into a steel mold that it may be formed into a bar. After cooling, the bar is given a bath of a very weak solution of sulphuric acid to remove any foreign substance adhering to its surface. It is then reweighed and the weight double-checked, after which it is delivered to the Assay Department, where a small chip is taken from diametrically opposite corners, for the purpose of assaying. The bar is then returned to the Assayer in Charge, when it is again weighed and the weight double-checked. One chip from the bar is taken in charge by one assayer, and the other chip by another, so that two separate and distinct assays are made on each bar, thus precluding the possibility of error when the results are finally compared. The assays are made by what is known as the "nitric acid process," and if the bar be homogeneous, the result in fineness of gold and silver is reported to

THE FIRST DEPOSITORS AT THE UNITED STATES ASSAY OFFICE FROM THE NEWLY DISCOVERED GOLD-FIELDS AT CAPE NOME, ALASKA.

NEARLY FOUR MILLIONS IN KLONDIKE GOLD PILED ON THE WHARF AT SEATTLE.

the Assayer in Charge. The weight of the bar after melt and its fineness in gold and silver are used by the clerical department in calculating its value, the latter being a calculation in triplicate to also preclude the possibility of error. After the bar's value is determined and the regular charges are deducted, a check is drawn in favor of the

FIRST DEPOSITORS FROM KLONDIKE AT THE SEATTLE ASSAY OFFICE

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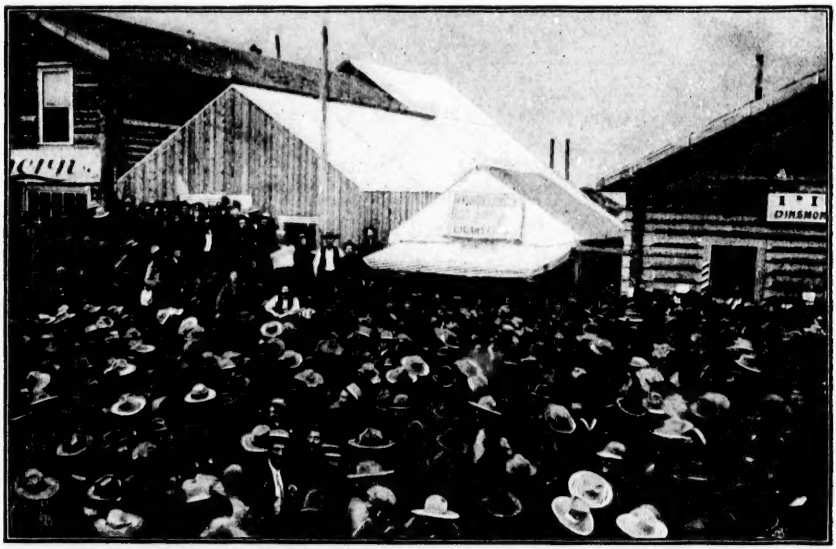
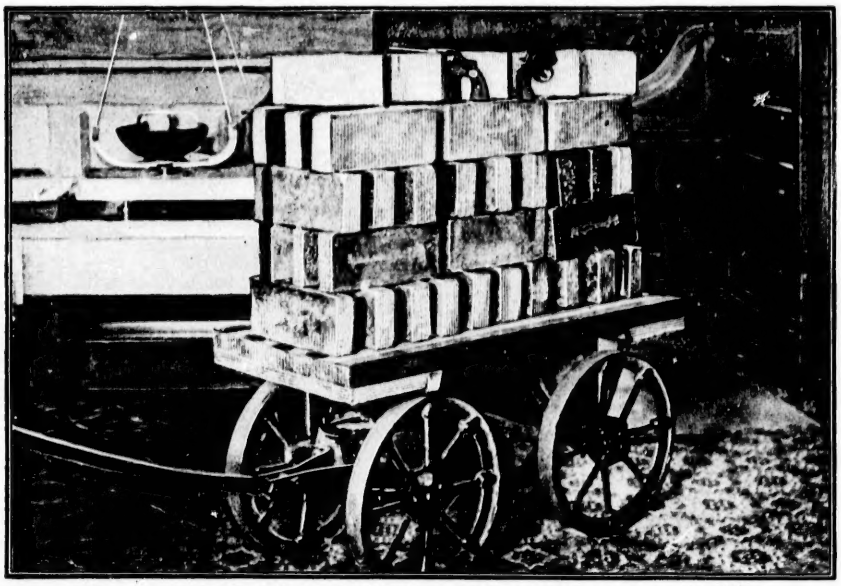
depositor and paid over on surrender of the receipt, properly indorsed, issued to him at time of depositing the gold-dust. If desired, the depositor may accept the gold bar in settlement and pay the regular charges for the work entailed in determining its value. After a considerable number of gold bars of sufficient weight have accumulated, they are shipped to the United States Mint in specially prepared bullion boxes. Departmental guards are within the institution every minute, night and day, and during the exceedingly busy season, a special detail of police, in addition, is always at hand, thereby affording extra precautions against robbery or surreptitious disappearance of gold-dust or bullion.



READING A MONTH-OLD NEWSPAPER TO THE MINERS AT DAWSON CITY.

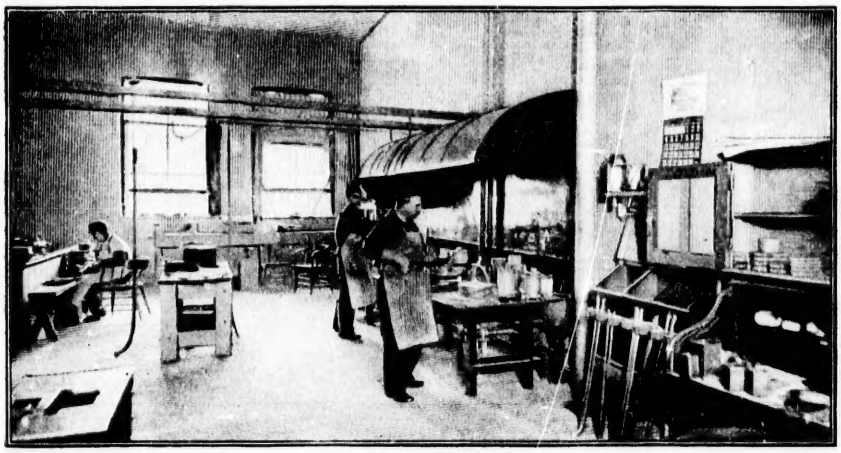
Four days after the opening of the Seattle office the whole world knew that the reports of the riches of the Klondike had again been confirmed. On the morning of July 19th, the steamship "Roanoke" steamed into Seattle harbor, direct from the mouth of the Yukon River, with several hundred Klondikers and a million or more of treasure. The reader can well recall the excitement created throughout the world at that time. Long lines of depositors could be seen making their way to the government's gold-purchasing institution, and a big truckload of boxes of gold-dust hauled by four horses soon put in its appearance at the assay office. Excitement ran very high and the assay office became the cynosure of all eyes. It was indeed a busy day in the institution's history, taxing its capacity to the utmost. It was nearly a week, however, before all the gold-dust arriving on this steamer found its way to the assay office. After this, gold kept arriving by every steamer, and by November 1st the receipts of the institution reached more than what was then considered the rather enormous figure of $5,000,000 (Report Director of the Mint, 1898, page 117). Contrary to a pretty general belief that November 1st would see the end of the gold until the opening of next season's navigation on the Yukon, the treasure kept on coming by the overland route. Late in November the first party of Klondikers came from Dawson City to Skaguay over the ice, and thence to Seattle, via ocean steamship, bringing with them many pounds of the precious metal. All during December, 1898, and January, February and March, 1899, Klondikers "came out" over the ice, and the receipts of the assay office increased correspondingly. Not all of this, it must be admitted, was from the far north, for the mines of southeastern Alaska, British Columbia and Washington



FORTY-FOUR GOLD BARS ON BULLION-TRUCK AT SEATTLE ASSAY OFFICE, VALUE $886,000

contributed a steady quota throughout the year. Still, it was a remarkable showing that $6,504,952.64 should be credited to the operations of the United States assay office at Seattle at the close of the fiscal year ended June 30, 1899, about $3,000,000 in excess of the expected receipts. Over six and a half million dollars' worth of gold-dust received, melted, assayed, paid for and shipped to the mint without loss of a cent or without incident to mar the efficiency or standing of the institution, is the record that placed the Seattle assay office first on the list of these institutions in the United States, in number of ounces of virgin placer-gold received, and third in volume of business transacted.

Such results, of course, gave rise to much interesting speculation as to what would be the figure for the fiscal year



MELTING DEPARTMENT.

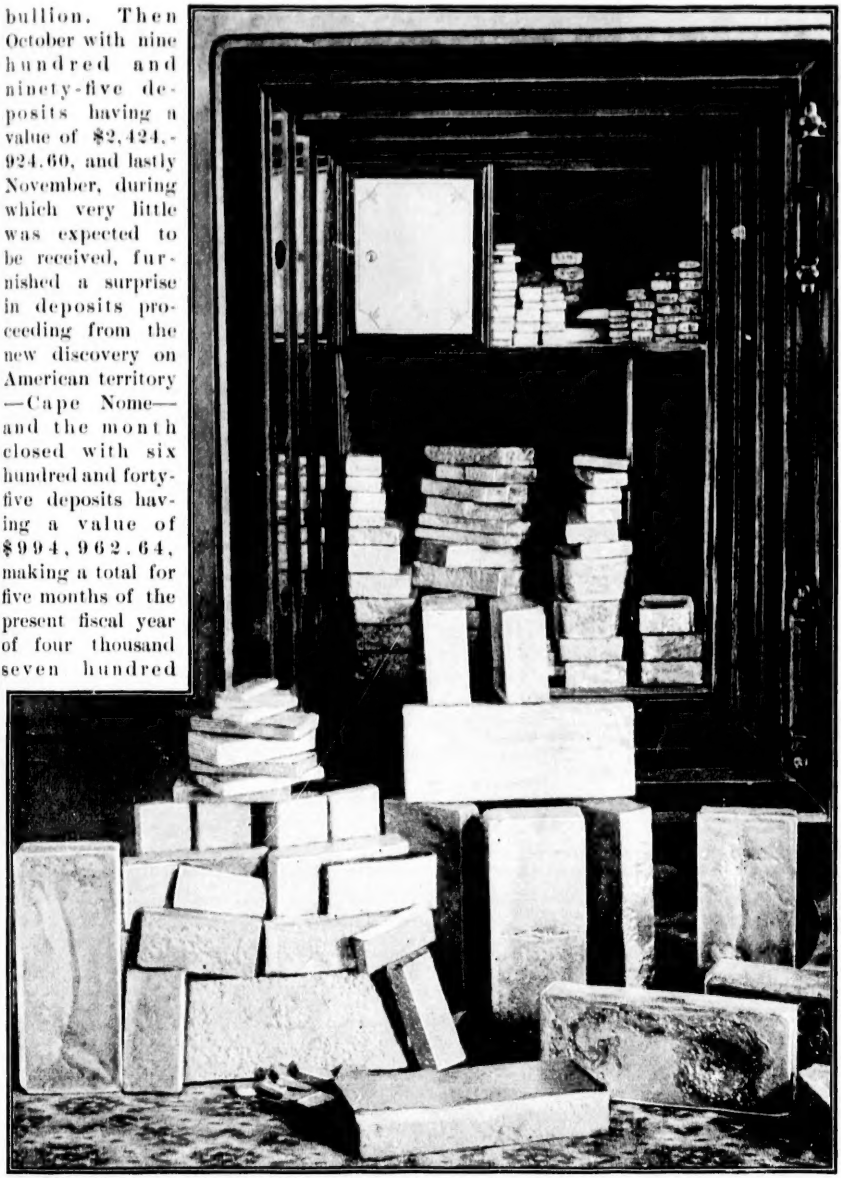
ending June 30, 1900. No guess exceeded $12,000,000, and the consensus of opinion placed the figure at $10,000,000. The year began July 1, 1899, with rather an unexpected number of deposits, and the end of July witnessed the receipt of one thousand four hundred and thirty-seven individual deposits, amounting to $4,257,376.45. It was the 18th of July, 1899, that marked the top-notch of business done in the office, for on that day two hundred and sixty-two individual deposits were received for 94,126.53 ounces of gold-dust, worth over one and a half millions of dollars. Crowds of men, women and children gathered in the vicinity of the assay office watching the long lines of Klondikers carrying all the gold-dust they possibly could, while many must needs take a carriage to the institution, as their precious burdens were too heavy to bear in person. It was in the afternoon that two large trucks, loaded down with boxes of gold-dust from the banks in Dawson City and each drawn by four horses, halted at the assay office doors and began to deliver box after box to the government. At this wonderful sight the spectators gave way to bursts of enthusiastic cheering. The weighing of this gold continued all during the evening, and hour after hour witnessed the opening of the boxes and the recording of their weight, until the task was finally completed at one o'clock A.M., ending a most interesting and rather exciting day.

The illustration in which are shown the boxes containing the major portion of this large treasure, as it was piled upon the wharf from the steamer preparatory to hauling to the government institution, will give the reader a fairly good idea of its bulk. Its weight can be approximated very readily when it is understood that a ton of gold-dust is valued at $375,000 to $400,000.

GOLD-SEEKERS LEAVING SEATTLE FOR CAPE NOME.

Then came the month of August with six hundred and sixty deposits having a value of $963,505.45; next, September with one thousand and forty-three deposits having a value of $3,263,224.42, and in which the melting department did its banner day's work, on the 12th, making a record of sixty individual melts, poured into gold bars, washed, weighed and reweighed, and put in proper condition for shipment to the United States Mint, in all amounting to 28,087.47 ounces of gold

bullion. Then October with nine hundred and ninety-five deposits having a value of $2,424,-924.60, and lastly November, during which very little was expected to be received, furnished a surprise in deposits proceeding from the new discovery on American territory —Cape Nome— and the month closed with six hundred and forty-five deposits having a value of $994,962.64, making a total for five months of the present fiscal year of four thousand seven hundred



ONE MILLION FIVE HUNDRED THOUSAND DOLLARS IN GOLD BARS.

and eighty deposits with a value of $11,853,993.56—a grand total since the establishment of the institution—sixteen and a half months—of eight thousand two hundred and nine individual deposits with a value of $18,358,946.20, an average of considerably over a million dollars per month. Figures are sometimes rather startling, more especially when expressing, as in this case, entirely a new source of national wealth, and this welcome addition to the country's stock of

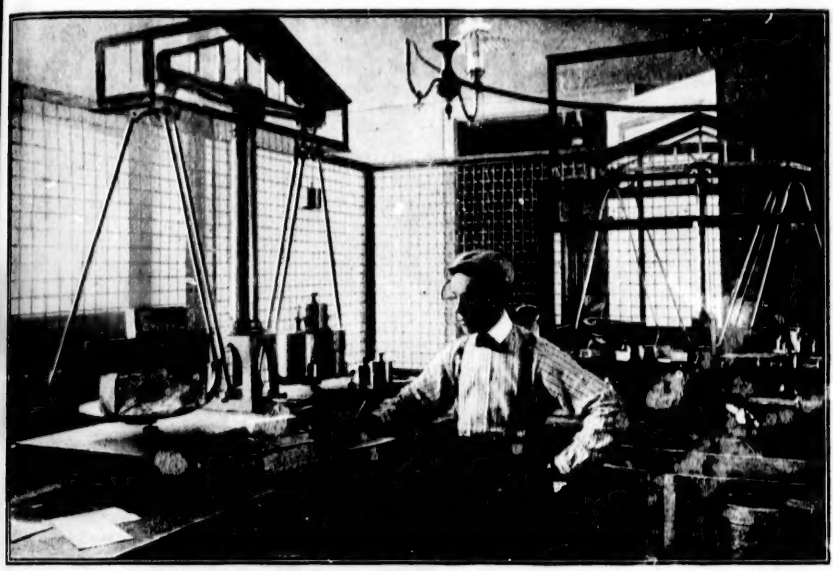
DETERMINING THE FINENESS OF GOLD AND SILVER.

bullion is the result of the labor of taking out 1,152,566.75 ounces of gold from the virgin earth, 738,058.44 ounces of which were received at Seattle in the five months of this fiscal year, a daily average of 5,811.49 ounces with a value of $93,338.54.

It must not be inferred that the United States assay office at Seattle receives the entire output of the Klondike district and Alaska, for a portion goes to the United States assay offices at other points, to United States mints and to private smelters, but now, before half the fiscal year is gone, the shrewdest guessers have raised their conservative estimates to $14,000,000 worth of gold to be handled before the last day of next June, and they are now putting forward $20,000,000 for the fiscal year beginning the 1st of next July.

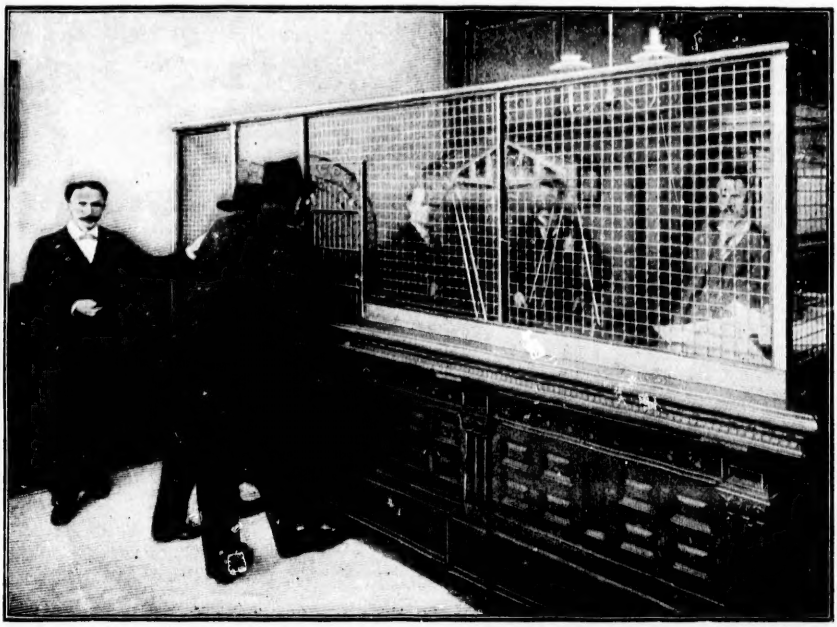
It will, no doubt, be of interest to many to know something of the sources of supply of all this wealth. The major portion of it comes from what is termed the Klondike district in Northwest Territory, Canada, and has an assay value after melting of from $15.75 to $16 per ounce. Some certain creeks in this district show a much higher average, notably Hunker, Dominion and Sulphur. The Atlin district in British Columbia, Canada, is another large source of supply and its placer-gold averages about $16.75 per ounce after melt. Forty Mile, Jack Wade, Chicken, Birch and Mastodon Creeks have contributed their quota and of rather high average value per ounce. The Manook district in Alaska, farther down the Yukon, has contributed a large amount of most excellent placer-gold. In fact, the highest grade of placer-gold received at Seattle from the far north is mined on Little Manook Creek. This gold has an average assay value after melt of $19.50 per ounce, being almost pure—pure gold is $20.67 per ounce.

Since the opening of navigation this past season, a wonderful and heretofore practically unknown region of placer-gold was discovered in the ocean-beach sands at Cape Nome, Alaska. The beach for a distance of many miles gives substantial evidence of a large yield of very fine flake gold of excellent quality, and the banks of all the creeks seeking the ocean at and near this point appear to be thickly mixed with glittering powder. The tundra for many miles back from the sea-beach carries gold in paying quantities, giving ample evidence of a large future yield. This new placer-mining district,

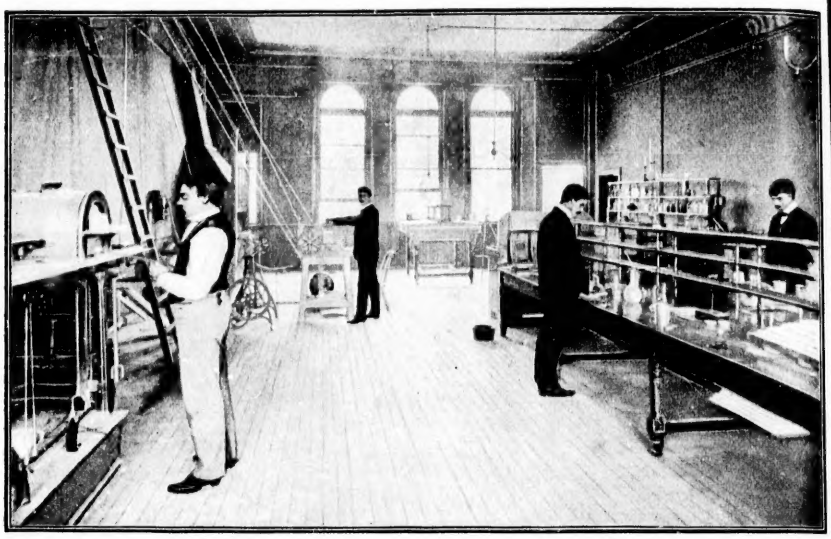


BALANCES THAT HAVE WEIGHED OVER EIGHTEEN MILLION DOLLARS' WORTH OF GOLD.

on the sea-shore of the central western portion of Alaska, is accessible to all ocean-going craft for three months of the year, beginning with the summer solstice, and the methods of mining permit the work to proceed throughout the entire year.



RECEIVING DEPARTMENT, WHERE 1,152 566.75 OUNCES WERE WEIGHED AND RECEIPTED FOR IN SIXTEEN AND ONE-HALF MONTHS.



THE ASSAYING DEPARTMENT.

It is conservatively estimated that this new district produced more than two millions of dollars' worth of gold this past summer. Considerably over a half million dollars' worth came to the government assay office at Seattle. It is of superior grade, contains from five to ten per cent. of black iron-sand, and after melting assays from $18.25 to $18.50 per ounce. New discoveries of known value in widely separated districts of Alaska are being made, and this vast area of nearly six hundred thousand square miles, larger than twenty entire states of the Union, promises more rewards in the future than the present or past chronicles.

It is only the bright and successful side of the acquisition of wealth in the far northwest that is manifest at the Seattle office, for those unfortunates who met only failure and disaster in the rush to the new Eldorado have no business to transact with the government assay office. The lucky depositors hail from all sections of the United States, Canada and Europe, the majority being under forty years of age, and many have been graduated from our great institutions of learning. It is perhaps not out of place to mention that a great many of the successful Klondikers have told the writer practically the same story concerning the intense longing for news from loved ones in the "States." The arrival of each mail is an indescribable pleasure, one of the few delights that come to the sturdy workers. The illustration shows a characteristic scene in Dawson. The waiting crowd listens to the reading of a newspaper, but all are more intent on the precious missives that will soon be in their hands. The affairs of the world can wait until the seals are broken. A few lines from mother, father, wife, daughter, son, sweetheart, sister, brother or friend are worth more than gold, and relieve the intensity of the wild surroundings, bringing them in touch again with a sweeter and more gentle civilization. It is those few precious lines from home that add courage and awaken within the breast of the recipient renewed determination to seek more zealously for the coveted but as yet hidden treasure. They give him a more gentle demeanor toward his fellow-Argonaut and afford new topics of discussion where colloquial pleasures are but few.

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